

REMARKS

Favorable consideration and allowance are respectfully requested for claims 1-29, 31-46 and 48-59 in view of the foregoing amendments and the following remarks.

Claim 48 is amended to make it dependent from claim 42 rather than claim 47, as kindly suggested by the Examiner. The objection to this claim is believed to be rendered moot by this amendment and withdrawal thereof is respectfully requested.

Claims 1, 2, 11 and 18 are amended to delete the requirement that the platinum content in the substrate surface region is less than 18 wt%. Claim 20 is amended to recite that the aluminum content is at least 10 wt%. Claim 7 is amended to provide proper syntax by adding the word "A".

The rejection of claims 1-29, 31-46 and 48-49 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,066,405 (Schaeffer) is respectfully traversed.

Despite the prior notice that claims 1-24 were allowable, the recent Office Action takes the position that the techniques taught in Schaeffer could be used to generate a component having a substrate surface region with a platinum or aluminum content of less than 18 percent.

Reviewing Schaeffer, the reference makes clear that the entire point is to achieve a substrate surface region with an increased platinum or aluminum content. The reference starts with a component having a reduced platinum and aluminum composition (see the paragraph bridging cols. 3 and 4). This paragraph describes a component having an aluminum content of from about 5 to about 16 weight percent. Platinum is not even listed as a component. Apparently, these low values of platinum and aluminum do not provide adequate protection for the component as the Schaeffer teaches a protective coating with an increased platinum and aluminum content.

As described in col. 5, lines 50-57, the reference teaches the platinum and aluminum content ranges from 18 to 45 and 18 to 24 weight percent, respectively. The preferred ranges are even higher. In col. 6, lines 16-34,

Schaeffer describes the results achieved for testing with coatings having varying amounts of platinum and aluminum content. The results are explained as showing that:

There is a distinct region of significantly improved performance, for platinum-aluminum regions having an integrated aluminum content of from about 18 to about 24 percent by weight and an integrated platinum content of from about 18 to about 45 percent by weight, balance components of the substrate bulk composition.

Thus, Schaeffer reports that the optimized values for coatings are those having compositions outside of the present claims. Further, Schaeffer discloses that "Outside of these limits, the protection afforded by the surface region decreases." See col. 6, lines 33-34. Thus, Schaeffer teaches a person of skill in the art that ranges such as those presently claimed are substandard and undesirable.

Based on this disclosure, a person of skill in the art would understand that Schaeffer had already optimized the compositions. This person would have no reason to believe that they might achieve results other than those taught by the reference. To state otherwise is to suggest that the person of skill in the art would ignore the plain language and clear teachings of the reference.

There is no disclosure anywhere in Schaeffer of coatings such as those presently claimed. Further, in order to arrive at the presently-claimed coatings, one of skill in the art would have to selectively ignore language in the reference that clearly states coatings outside the ranges suggested by the reference are less protective. The Office Action states that where there is evidence that concentrations or temperatures are critical, differences concentration or temperature will not support patentability. The law is clear, however, that a reference which teaches away from claimed subject matter cannot properly support an obviousness rejection with respect to that claimed subject matter. Schaeffer's teaching that outside the ranges it discloses, the protection of the surface region decreases, is exactly the type of evidence contemplated by the patent laws as teaching away.

As set forth in § 706.02(j) of the Manual of Patent Examining Procedure (MPEP), Patent and Trademark Office, U.S. Department of Commerce, (8th ed., Rev. 3, August, 2004).

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

By stating that surface regions with a composition outside the disclosed limits are less protective, Schaeffer teaches away from the presently claimed invention. Not only is the person of skill in the art not provided with any motivation to try to modify the teachings of Schaeffer so as to arrive at the claimed invention, the person of skill in the art is actually discouraged from attempting an arrangement as is presently claimed. Just as it is improper, for purposes of an obviousness rejection, to combine references where the reference teaches away from their combination (see MPEP 2145(X)(D)(2)), it is similarly improper to assume that it would be obvious to modify a reference in a way the reference explicitly teaches against.

The person of skill in the art is also provided with no reasonable expectation of success in achieving a useful result with the claimed invention. In fact, Schaeffer teaches the person of skill in the art that they will not have success in achieving benefits through the modifications of Schaeffer necessary to arrive at the claimed invention.

Finally, the clear statements in Schaeffer that ranges outside those taught in the reference are unsuitable renders the benefits achieved by the present invention unexpected. As indicated above, Schaeffer teaches certain limits for platinum and aluminum in the coating and then states that "Outside of these limits, the protection afforded by the surface region decreases." See, col. 6, lines 33-34. Accordingly, the realization that certain benefits are achieved by the

claimed invention amounts to an unexpected result that could not have been predicted or foreseen based on the Schaeffer disclosure. The realization that certain benefits are achieved by the claimed invention is actually contrary to the teachings of the reference.

All of the remaining claims require a substrate surface region where at least one of the platinum and aluminum content are essentially constant. Schaeffer provides no disclosure or suggestion of this arrangement. In fact, Schaeffer teaches the exact opposite, which is that the platinum and aluminum content vary. As a result of the diffusion process taught by Schaeffer, the platinum and aluminum content vary as a function of depth. The content of these metals is very high near the surface of the component and decreases with increasing depth into the component. See col. 5, lines 9-20. Thus, Schaeffer's disclosure is the exact opposite of the claimed invention.

The Office Action discusses Schaeffer's suggestion that measurements of the metal composition can be made at various locations and makes the conclusory assertion that it would be possible to optimize the process to obtain particular metal concentration profiles. However, Schaeffer offers no teaching or suggestion as to how to achieve a constant content for any metal, as is required of the claims. The very reason Schaeffer provides the measurements and integration is because the metal content (the profile) varies throughout the region.

The reference provides one of skill in the art with no suggestion as to how to achieve a constant metal content, nor is this person provided with any motivation to try to do achieve a constant metal content.

Thus, Schaeffer fails to teach or suggest each and every limitation of the claims. Further, the reference provides one of skill in the art with no motivation to try to modify the teachings of Schaeffer so as to arrive at the claimed invention. In certain respects, Schaeffer actually teaches away from the claimed invention and teaches away from any hope of an expectation of success in so modifying the disclosure of the reference. As a result, a *prima facie* showing of

obviousness has not been made for the claims and reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

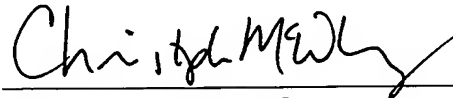
In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #011235.53144US).

March 28, 2006

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